

AMENDMENTS TO THE CLAIMS

1. (Previously presented) A process for the separation of palladium from a crude reaction mixture comprising aryl acetic acids of the general formula



wherein

Z means phenyl, naphth-2-yl, 9H-fluoren-2-yl, substituted carbazol-2-yl, benzoxazol-5-yl, either of which can be substituted with H, C₁-C₈-alkyl or C₁-C₈-cycloalkyls optionally substituted with -F or -Cl, C₆-C₁₀-aryl optionally substituted with F or Cl, OR⁴, COR⁵, -F, -Cl and pyrrolyl or dehydropyrrolyl or 1-oxo-1,3-dehydro-isoindol-2-yl optionally substituted with F or Cl, OR⁴, COR⁵, -F, -Cl;

R¹ means H or C₁-C₄-alkyl; and R², R³, R⁴, R⁵ mean independently of each other; H, C₁-C₈ alkyl, C₆-C₁₀-aryl optionally substituted with -F or -Cl, or thiophenyl;

wherein the crude reaction mixture is obtained by palladium catalyzed carbonylation by adsorption of the palladium on a solid adsorbent, characterized in that the adsorption is carried out in the absence of a reducing agent for palladium and at a temperature, in which the crude reaction mixture is molten.

2. (Previously presented) A process as claimed in claim 1, wherein said crude reaction mixture comprises a compound selected from the group consisting of ibuprofen, naproxen, ketoprofen, flurbiprofen, indoprofen, suprofen, hexaprofen, piroprofen, fenoprofen, cicloprofen, mexoprofen, benoxaprofen and carprofen.
3. (Previously presented) A process as claimed in claim 1, wherein said crude reaction mixture comprises ibuprofen or naproxen.

4. (Previously presented) A process as claimed in claim 1, wherein the solid adsorbent is selected from the group consisting of activated carbon, optionally functionalized silica gel, aluminum oxide, infusorial earth, magnesium oxide, ion-exchange resin, neutral solid adsorbent, zeolite and a combination of two or more of such solid adsorbents.
5. (original) A process as claimed in claim 1, wherein the adsorbent is directly added to the crude reaction mixture, stirred and then separated by filtration.
6. (original) A process as claimed in claim 1, wherein the adsorption is conducted at a temperature in the range of 40°C to 180°C.
7. (original) A process as claimed in claim 1, wherein the said temperature is in the range of 40°C to 150°C.
8. (original) A process as claimed in claim 1, wherein the temperature is in the range of 60°C to 120°C.
9. (Previously presented) A process as claimed in claim 1, wherein the solid adsorbent comprises activated carbon with an average particle-size of less than 150 μm for 80% of the particles.
10. (Previously presented) A process as claimed in claim 9, wherein the activated carbon has an average particle-size of less than 60 μm for 80% of the particles.
11. (Previously presented) A process as claimed in claim 1, wherein the solid adsorbent is a basic ion-exchange resin.

12. (original) A process as claimed in claim 11, wherein the ion-exchange resin is a strong basic ion-exchange resin.

13. (original) A process as claimed in claim 1, wherein the solid adsorbent is a functionalized silica gel.

14. (original) A process as claimed in claim 13, wherein the said functionalized silica gel is functionalized with phosphine groups.

15. (Currently amended) A process as claimed in claim 14, wherein the said functionalized silica gel is ~~preferably~~ a silica gel functionalized with diphenyl phosphine groups.

16. (Previously presented) A process as claimed in claim 9, wherein the separation of palladium from the crude reaction mixture accounts for 85% to 96% of the palladium originally present in the crude reaction mixture.

17. (Previously presented) A process for the separation of palladium from a crude reaction mixture containing ibuprofen, wherein the crude reaction mixture is obtained by palladium catalyzed carbonylation by adsorption of the palladium on a solid adsorbent, characterized in that the adsorption is carried out in the absence of a reducing agent for palladium and at a temperature of 40 °C to 200 °C.

18. (Previously presented) A process as claimed in claim 17, wherein the solid adsorbent comprises activated carbon with an average particle-size of less than 150 µm for 80% of the particles.

19. (Previously presented) A process as claimed in claim 18, wherein the separation of palladium from the crude reaction mixture accounts for 85% to 96% of the palladium originally present in the crude reaction mixture.

20. (Previously presented) A process as claimed in claim 17, wherein the solid adsorbent comprises ion exchange resins comprising quaternary ammonium groups, and the separation of palladium from the crude reaction mixture accounts for 88% to 96% of the palladium originally present in the crude reaction mixture.